

This question paper contains 2 printed pages]

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S. No. of Question Paper : 7328

Unique Paper Code : 2193010018

Name of the Paper : **Techniques of Sample Collection and Processing
in Geology**

Name of the Course : **B.Sc. (Hons.) Geology (NEP)**

Semester : **VIII**

Duration : **3 Hours**

Maximum Marks : **90**

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt any five questions.

1. Differentiate between static and dynamic sampling systems with suitable examples. Explain why geological sampling is inherently stochastic in nature. Discuss how careful selection of sampling methods improves precision in both systems. 18
2. Describe various sampling methods used in surface and underground workings. Distinguish between reconnaissance-level and high-precision sampling techniques. Illustrate your answer with suitable diagrams where required. 18
3. Explain the procedures for collecting water samples from (a) running streams and (b) still water bodies. Also describe sample handling, preservation techniques and precautions to avoid contamination. 18

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4. Explain the sampling techniques used in geochronological studies. Highlight the precautions required during sample collection, handling and storage. 18
5. (a) Explain the working principle and advantages of air core drilling. 9
(b) Explain the concept of high-resolution thematic sampling and its applications. 9
6. (a) Explain different types of sampling errors and their sources. 9
(b) Write a short note on auger drilling, including its applications. 9
7. Describe various geochemical sampling techniques and explain their applications in mineral exploration. 18
8. Discuss safety protocols and ethical considerations in geological sampling and laboratory practices. 18